

WHAT IS CLAIMED IS:

1. A magnetic tape recording apparatus for recording digital data on a magnetic tape with a rotary head, said apparatus comprising:

first acquiring means for acquiring video data, audio data or search data;

second acquiring means for acquiring auxiliary data having a variable length and related to the data acquired by said first acquiring means;

selecting means for selecting, as first group data, one of the data acquired by said first acquiring means and the data acquired by said second acquiring means;

third acquiring means for acquiring second group data containing a subcode related to said first group data;

merging means for merging said first group data and said second group data such that said first group data and said second group data are continuously arranged on tracks of said magnetic tape without being spaced away from each other; and

supplying means for supplying data merged by said merging means to said rotary head to record the merged data on said magnetic tape.

2. A magnetic tape recording apparatus according to

Claim 1, wherein said first acquiring means acquires, as said first group data, the video data in edit units.

3. A magnetic tape recording apparatus according to Claim 1, wherein said second acquiring means acquires, as said second group data, auxiliary data related to the audio data and auxiliary data related to the video data; and

    said merging means merges the auxiliary data related to the audio data, the audio data, the auxiliary data related to the video data, and the video data to be arranged in this order.

4. A magnetic tape recording apparatus according to Claim 1, wherein said second acquiring means further acquires auxiliary data required for pre-playback; and

    said merging means merges the auxiliary data required for pre-playback to be arranged at the head of an edit unit of the video data.

5. A magnetic tape recording apparatus according to Claim 4, wherein the auxiliary data required for pre-playback includes the contents recorded in a subcode sector.

6. A magnetic tape recording method used in a magnetic tape recording apparatus for recording digital data on a

magnetic tape with a rotary head, said method comprising the steps of:

    a first acquiring step of acquiring video data, audio data or search data;

    a second acquiring step of acquiring auxiliary data having a variable length and related to the data acquired by processing in said first acquiring step;

    a selecting step of selecting, as first group data, one of the data acquired by processing in said first acquiring step and the data acquired by processing in said second acquiring step;

    a third acquiring step of acquiring second group data containing a subcode related to said first group data;

    a merging step of merging said first group data and said second group data such that said first group data and said second group data are continuously arranged on tracks of said magnetic tape without being spaced away from each other; and

    a supplying step of supplying data merged by processing in said merging step to said rotary head to record the merged data on said magnetic tape.

7. A storage medium product storing a computer-readable program comprising the steps of:

    a first acquiring step of acquiring video data, audio

data or search data;

a second acquiring step of acquiring auxiliary data having a variable length and related to the data acquired by processing in said first acquiring step;

a selecting step of selecting, as first group data, one of the data acquired by processing in said first acquiring step and the data acquired by processing in said second acquiring step;

a third acquiring step of acquiring second group data containing a subcode related to said first group data;

a merging step of merging said first group data and said second group data such that said first group data and said second group data are continuously arranged on tracks of said magnetic tape without being spaced away from each other; and

a supplying step of supplying data merged by processing in said merging step to said rotary head to record the merged data on said magnetic tape.

8. A format for a magnetic tape on which digital data is recorded with a rotary head, wherein:

first group data comprising video data, audio data or search data, or comprising auxiliary data having a variable length and related to the video data, the audio data or the search data, and second group data containing a subcode

related to the video data, the audio data or the search data are recorded such that said first group data and said second group data are continuously arranged on tracks of said magnetic tape without being spaced away from each other.

9. A magnetic tape playback apparatus for playing back, with a rotary head, a magnetic tape on which first group data comprising compressed high-definition or standard-definition video data, audio data or search data, or comprising auxiliary data having a variable length and related to the video data, the audio data or the search data, and second group data containing a subcode related to said first group data are recorded such that said first group data and said second group data are continuously arranged on tracks without being spaced away from each other, said apparatus comprising:

acquiring means for acquiring the auxiliary data, as said first group data, or said second group data from data reproduced from said magnetic tape with said rotary head; and

decompressing means for decompressing the compressed high-definition video data, which is contained in the data reproduced from said magnetic tape with said rotary head, by using the auxiliary data or said second group data acquired by said acquiring means.

10. A magnetic tape playback method used in a magnetic tape playback apparatus for playing back, with a rotary head, a magnetic tape on which first group data comprising compressed high-definition or standard-definition video data, audio data or search data, or comprising auxiliary data having a variable length and related to the video data, the audio data or the search data, and second group data containing a subcode related to said first group data are recorded such that said first group data and said second group data are continuously arranged on tracks without being spaced away from each other, said method comprising the steps of:

an acquiring step of acquiring the auxiliary data, as said first group data, or said second group data from data reproduced from said magnetic tape with said rotary head; and

a decompressing step of decompressing the compressed high-definition video data, which is contained in the data reproduced from said magnetic tape with said rotary head, by using the auxiliary data or said second group data acquired by processing in said acquiring step.

11. A storage medium product storing a computer-readable program for controlling a magnetic tape playback

apparatus for playing back, with a rotary head, a magnetic tape on which first group data comprising compressed high-definition or standard-definition video data, audio data or search data, or comprising auxiliary data having a variable length and related to the video data, the audio data or the search data, and second group data containing a subcode related to said first group data are recorded such that said first group data and said second group data are continuously arranged on tracks without being spaced away from each other, said program comprising the steps of:

an acquiring step of acquiring the auxiliary data, as said first group data, or said second group data from data reproduced from said magnetic tape with said rotary head; and

a decompressing step of decompressing the compressed high-definition video data, which is contained in the data reproduced from said magnetic tape with said rotary head, by using the auxiliary data or said second group data acquired by processing in said acquiring step.